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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/699,503	10/31/2000	David C. Cushing	2566-106	1384

6449 7590 10/03/2005

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EXAMINER	
ALPERT, JAMES M	

ART UNIT	PAPER NUMBER
3624	

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Re

Office Action Summary	Application No.	Applicant(s)	
	09/699,503	CUSHING ET AL.	
	Examiner	Art Unit	
	James Alpert	3624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16 and 18-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16 and 18-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The following communication is in response to Applicant's appeal brief filed on April 1, 2005.

Status of Claims

As of the last amendment prior to the appeal, Claims 5,8,10-12,15-16 are original. Claims 1-4,6-7,9,13-14,18-19 are previously presented. Claims 20-21 are currently amended. Claim 17 is cancelled. Therefore Claims 1-16 and 18-21 are currently pending.

Response to Arguments

In view of the Appeal Brief filed on April 1, 2005, PROSECUTION IS HEREBY REOPENED. The new non-final office action is set forth below. To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 2-12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of (1) whether the invention is within the technological arts; and (2) whether the invention produces a useful, concrete, and tangible result. The application appears to meet the requirements of the second prong, but seems be lacking in certainty as to whether the claimed methods are sufficiently grounded in the technological arts.

Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts. The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Moreover, the courts have found that a claimed computer implemented process was within the "technological art" because the claimed invention was an operation being performed by a computer within a computer. See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). Finally, the Board of Patent Appeals and Interferences (BPAI) has recently affirmed a §101 rejection finding the claimed invention to be non-statutory based on a lack of technology. See *Ex parte Bowman*, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).

Mere intended or nominal use of a component, albeit within the technological arts, does not confer statutory subject matter to an otherwise abstract idea if the component does not apply, involve, use, or advance the underlying process. In the instant application, there are several. In the present case, several paragraphs in Claim 2 fail to recite more than trivial use of technology. Specifically, the paragraphs reciting:

> "generating one or more executable trade orders." And
>
> "executing that one or more executable trade orders"

fail to demonstrate the a structural/functional relationship designed to exhibit a substantial use of technology. The examiner would recommend language such as:

> "said server generating..." or "said server configured to generate", and
>
> "said server executing" or "said server programmed to generate instructions to execute...,"

and the like. In addition, the phrase "receiving at said server..." is somewhat unclear, and should perhaps be rephrased to demonstrate the required non-trivial use of technology.

The Office has interpreted the *Bowman* decision to require that claims recite technology in both the preamble and the body of the claims in order to be considered more than a manipulation of an abstract idea and therefore non-statutory. The following preamble (or something similar) should be considered:

> "A computer implemented method for executing ..."

or something similar.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1-16 and 18-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to Claims 1-2, the examiner would point out that the portion of the claims referring to

"said specific trading strategy algorithm receiving a non-executable request..."

is unclear in that an algorithm cannot receive a request. An algorithm is simply a mathematical process or formula. The server may be able to receive the request, but not the algorithm. The remaining elements of the claim are confusing, and the examiner suggests the following language, in some form, as to Claims 1-2:

providing a server connected to a communication network, said server being programmed with a specific trading strategy algorithm.

receiving at said server over said network a request for trading a number of shares of a particular security from a customer;

generating one or more executable trade orders for carrying out said request, said one or more executable trade orders being generated according to actions determined by said specific trading strategy algorithm;

and executing said one or more executable trade orders in a trade forum.

With regard to Claim 3, the "average share volume" recited in the claim is not specific enough. Is this the average share volume of the entire market or of the particular security? The examiner would suggest language reciting:

for a received request, computing average share volume of said particular security for each time bin over a predetermined period of time...

With regard to Claim 4, the claim recites a limit order as:

being determined as a function of an amount of time remaining in said given time bin, and as a function of real-time assessment of current market conditions based on real-time market data.

Unfortunately, the server described in Claims 1-2 has not been configured to receive such real-time data, making it impossible to perform the step. Appropriate correction is required.

With regard to Claims 5-16 and 18-21, the Examiner is aware that there may be further deficiencies in the claims of the variety described in the rejections of Claims 1-4. The applicant is requested to further review each of the remaining claims to locate any and all potential ambiguities and inconsistencies.

Claim Rejections - 35 USC § 103

The text of 35 U.S.C §103 can be found in a prior Office action. Claims 1-2 are rejected under 35 U.S.C. 103(e) as being anticipated by Tilfors U.S. Patent #6405180.

With regard to Claims 1-2, Tilfors teaches the system and method comprising:

providing a communication network being programmed with a specific trading strategy algorithm, (Col. 2, lines 21-27)

said specific trading strategy algorithm receiving a non-executable request for trading a number of shares of a particular security in a trade forum, and generating one or more executable trade orders for carrying out said request, said one or more executable trade orders being generated according to a trading strategy; (Col. 2, lines 14-20)

receiving over said network a request for trading a number of shares of a particular security from a customer; (Col. 2, lines 39-42)

generating one or more executable trade orders for carrying out said request according to actions determined by said specific trading strategy algorithm;
(Col. 2, lines 14-20 and lines 39-42)

and executing the one or more executable trade orders in a trade forum according to actions determined by said specific trading strategy algorithm. (Col. 3, lines 39-42)

Tilfors does not specifically disclose a server configured to coordinate the activities of the system and method described above, however this technology is old and well-known in the art. As such, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to modify the teachings of Tilfors to include a coordinating server. The motivation for such a combination is to allow the system to be deployed in any configuration over possibly geographically dispersed areas.

With regard to Claims 3-16 and 18-21, these claims are rejected as depending from a faulty independent claim.

Conclusion

The following prior art, made of record, but not relied upon, is considered pertinent to applicant's disclosure:

Horrgian et al, U.S. Patent #6493682, December 10, 2002, Optimal Order Choice: Evaluating Uncertain Discounted Trading Alternatives

THIS ACTION IS NON-FINAL. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Alpert whose telephone number is (571) 272-6738. The examiner can normally be reached on M-F 9:30-6:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached on (571) 272-6747. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197.

James M. Alpert
September 20, 2005

JAGDISH N. PATEL
PRIMARY EXAMINER